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NC DENR

## Division of Waste Management - Solid Waste

**Environmental Monitoring  
Reporting Form**

**Notice:** This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

**Instructions:**

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

**Solid Waste Monitoring Data Submittal Information**

Name of entity submitting data (laboratory, consultant, facility owner):

Quible &amp; Associates, P.C. (On behalf of Currituck County)

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Steve Jones (Environment 1) Phone: 252.756.6208

E-mail: \_\_\_\_\_

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Currituck County Landfill	216 Airport Road	27-01	.0500	December 21, 2015

**Environmental Status: (Check all that apply)**

Initial/Background Monitoring     Detection Monitoring     Assessment Monitoring     Corrective Action

**Type of data submitted: (Check all that apply)**

<input type="checkbox"/> Groundwater monitoring data from monitoring wells	<input type="checkbox"/> Methane gas monitoring data
<input type="checkbox"/> Groundwater monitoring data from private water supply wells	<input type="checkbox"/> Corrective action data (specify) _____
<input type="checkbox"/> Leachate monitoring data	<input type="checkbox"/> Other(specify) _____
<input checked="" type="checkbox"/> Surface water monitoring data	Groundwater flow direction map

**Notification attached?**

- No. No groundwater or surface water standards were exceeded.
- Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
- Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

**Certification**

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Warren Dennis Eadus

Agent

252.491.8147

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

*WDE*

March 16, 2016

Affix NC Licensed/ Professional Geologist Seal

Signature

Date

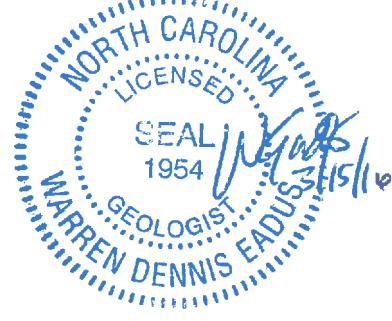
PO Drawer 870 Kitty Hawk, NC 27949

Facility Representative Address

PE Corporate License C-0208/ PG Corporate License C-468

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009



# Quible

Quible & Associates, P.C.

ENGINEERING • ENVIRONMENTAL SCIENCES • PLANNING • SURVEYING  
SINCE 1959

P.O. Drawer 870  
Kitty Hawk, NC 27949  
Phone: 252-491-8147  
Fax: 252-491-8146  
web: quible.com

March 18, 2016

Donald Herndon  
NC DENR-Division of Waste Mgt-Solid Waste Section  
1646 Mail Service Center  
Raleigh, NC 27699-1646

Re: Environmental Reporting Form  
Currituck County MSW Landfill  
Permit #27-01

Mr. Herndon:

Please find enclosed an Environmental Monitoring Reporting Form and associated data and documentation related to the groundwater and surface water sampling activities conducted at the above referenced facility on December 21, 2015 by Environment 1, Incorporated (Environment 1). Quible & Associates, P.C. (Quible) was asked to review the laboratory analytical data and provide the appropriate technical assistance in fulfilling the Division of Waste Management Solid Waste Sections' (Division) reporting requirements.

Based on the groundwater analytical results reported in the December 21, 2015 laboratory analytical report, the concentrations of arsenic reported in the groundwater samples collected from Well #6 (10 µg/L) equal the 2L GQS and SWSL. Concentrations of barium reported in the groundwater samples collected from Well #8 (133 µg/L) exceed the SWSL, but not the 2L QGS.

Concentrations of benzene reported in the groundwater samples collected from Well #6 (1.60 µg/L) and Well #8 (1.50 µg/L) exceed the 2L GQS and the SWSL.

Concentrations of chlorobenzene reported in the groundwater samples collected from Well #8 (4.20 µg/L) exceed the SWSL, but not the 2L GQS.

Based on the groundwater analytical results reported in the December 21, 2015 laboratory analytical report, no concentrations of any metals or volatile organic compounds were reported above the 2L GQS or the SWSL in the surface water sample collected. However, concentrations of barium (10.6 µg/L), total chromium (0.22 µg/L), and lead (0.11 µg/L) that exceed the method detection limit was detected in the sample collected from the Pond.

Tables summarizing the groundwater analytical data for groundwater and surface water samples with detectable concentrations of metals and volatile organic constituents from the last 18 sampling events (nine years) have been included with this submission. A copy of the most recent laboratory analytical report and a table entitled; *Table of Values Which Exceed Established Standards And/Or Exceed Reporting Levels*, submitted to Currituck County by Environment 1 have also been included.

Barium and arsenic are naturally occurring metals that are readily found in measurable quantities in both groundwater and soils in the coastal plain of North Carolina. Therefore, it is not clear if the concentrations reported in the laboratory report are a result of natural background levels of this naturally occurring metal.

A review of the last nine years of groundwater and surface water sampling data indicates that concentrations of all metals analyzed are generally stable and the concentrations that have or currently do exceed the 2L GQS are likely, or at least potentially, naturally occurring. Analytical data will continue to be monitored and any future irregularities or sharp increases in reported metal concentrations will be considered and addressed, as each case may warrant.

Benzene is typically associated with petroleum and/or petroleum based products. Concentrations of benzene that exceed the 2L GQS have been reported in the groundwater samples collected from Well #6 and Well #8 for the last five years and now consistently exceed the 2L GQS. Benzene concentrations reported in the groundwater samples collected from Well #5 in previous years has decreased slightly with no detection of benzene at or above the specified MDL as reported in the laboratory report of analysis for the last two years.

Concentrations of chlorobenzene (4.20 µg/L) that exceed the SWSL were reported in the groundwater samples collected and analyzed from Well# 8. Chlorobenzene is commonly used in the manufacture of pesticides, dyes, and rubber and degrades only very slowly once dissolved in groundwater. Reported concentrations of chlorobenzene are relatively low, appear to be stable, and do not currently appear to pose a significant threat to human health or the environment.

There is continued detection of volatile organics occurring and reported contaminant concentrations for VOC's during this sampling event are generally consistent with concentrations observed over the last four or five years.

A thorough review of the data over the last nine years, clearly shows that the contaminant levels in the groundwater samples are fairly constant with some minor fluctuation (possibly due to fluctuating seasonal well volume) in VOC's concentrations indicating that there is likely a source of VOC contamination in the landfill. However, the concentrations are apparently stable and there does not appear to be any immediate threat to human health or the environment as a result.

A Shallow Water Table Surface Map that has been generated using the reported depth to water measurements (performed by Environment 1) has been included. In general and based on the latest data, groundwater at the site is moving toward the southeast.

The next scheduled sampling event at the Currituck County Landfill is in June of 2016.

Please do not hesitate to contact the undersigned at 252.261.3300 if you have any questions or require any additional information in this matter.

Sincerely,

Quible & Associates, P.C.



Warren Eadus, P.G.

enc As stated  
pdf copy of all documentation

cc Brenda McQueen  
file

## Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Metals

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Arsenic	6/27/2007	61	6.6	4.7	<0.47	3.8	17	1.1	0.8	0.6	10	10
	12/6/2007	55	5.9	5.5	1.7	5.7	36	3.1	2	<0.47		
	6/27/2008	166	5.1	5	0.7	7	24	2.8	24	0.9		
	12/10/2008	8.3	4.1	3.3	0.7	4	18	2.9	2.5	1		
	6/16/2009	134	4.2	4.4	0.7	3.9	29	4.1	1.6	0.6		
	12/7/2009	41	3	4.2	0.2	1.4	23	7.4	2	<0.17		
	6/14/2010	279	4.3	39	0.5	2	15	4.7	2.1	0.8		
	12/21/2010	32	3.4	8	1.2	1.8	21	5.2	6.2	0.4		
	6/9/2011	59	4.4	8	0.39	1.1	15	3.8	2.5	0.85		
	12/8/2011	14	3.4	5.6	0.43	0.54	13	8	3.3	0.4		
	6/4/2012	27	5.5	4.3	0.2	0.38	57	9	2.1	0.74		
	12/13/2012	73	6.2	4.9	0.44	0.98	67	11	3.3	0.57		
	6/20/2013	20	5.1	4.3	0.08	0.55	10	4	3.3	0.73		
	12/18/2013	1.3	5.6	3.7	<0.05	0.17	12	1.9	2.8	0.46		
	6/12/2014	2.9	9	4.3	<0.10	0.36	8	0.82	2.8	0.2		
	12/23/2014	4.4	0.98	3.8	<0.10	0.16	30	2.3	3.5	0.53		
	6/10/2015	11	3.5	3.9	0.25	0.23	8	1.2	3.6	0.81		
	12/21/2015	3.4	2.2	4.0	<0.14	0.17	10	0.36	2.6	<0.14		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Barium	6/27/2007	38.2	121	8.6	43.5	159	26	26.9	51	15.3	700	100
	12/6/2007	30.3	96.3	8.4	65.3	172	35.8	23.7	162	18.3		
	6/27/2008	52.3	100	9.2	48.4	184	29	20.8	165	14.7		
	12/10/2008	37.4	125	8.6	45.1	116	29.6	17.5	226	8		
	6/16/2009	48.4	116	10.5	42.8	117	26.4	32.9	359	7		
	12/7/2009	60.3	73.6	11.3	34.4	58.7	22.8	17	394	15.7		
	6/14/2010	52.6	135	9.6	42.6	98.5	28.7	30.7	286	37		
	12/21/2010	45.1	100	8.1	57.7	63.5	22.8	24.2	333	12.9		
	6/9/2011	50.6	109	10	43.8	86.8	24.6	18.7	493	15.3		
	12/8/2011	45	77.3	7	71.6	46.3	23.1	20.1	228	13.4		
	6/4/2012	40.1	76.5	8.5	31.5	16.9	22.6	16.7	444	113		
	12/13/2012	48.4	45.3	8.7	37.9	46.1	22.3	24.8	213	11.2		
	6/20/2013	36.1	45.2	9.2	42.3	38.4	21.1	23.1	335	9		
	12/18/2013	36	34.5	9.1	34.4	6.1	22.7	21.2	226	11.9		
	6/12/2014	26.6	89.4	7.9	36.5	27.1	24.0	23.9	293	7.8		
	12/23/2014	34.2	45.5	11.0	61.0	24.6	22.8	26.5	181	10.3		
	6/10/2015	29.3	34.0	9.7	25.3	17.1	23.7	21.7	118	4.9		
	12/21/2015	26.2	38.3	9.2	86.4	10.4	22.7	18	133	10.6		

## Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Metals

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Cadmium	6/27/2007	0.3	0.2	<0.06	0.9	<0.06	<0.06	0.1	0.8	0.7	2.0	1.0
	12/6/2007	0.1	0.2	0.1	1.2	0.1	0.2	0.2	0.8	<0.06		
	6/27/2008	0.2	0.2	0.1	0.3	0.1	<0.04	0.1	0.4	0.1		
	12/10/2008	0.3	0.2	<0.04	0.2	<0.04	0.1	0.4	0.3	0.1		
	6/16/2009	0.4	0.1	0.2	0.3	<0.04	0.1	0.5	0.6	0.1		
	12/7/2009	0.3	0.2	0.1	0.2	<0.04	<0.04	0.1	0.6	<0.04		
	6/14/2010	0.2	0.1	0.1	0.4	<0.02	0.5	0.2	0.3	0.1		
	12/21/2010	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.8	0.1		
	6/9/2011	1	0.18	0.52	0.2	0.06	0.06	0.15	0.23	0.06		
	12/8/2011	0.06	0.19	0.07	0.19	0.22	<0.02	0.06	0.18	<0.02		
	6/4/2012	0.08	0.33	0.16	0.13	0.04	0.11	0.06	0.67	0.03		
	12/13/2012	0.13	0.11	0.12	0.15	0.03	<0.03	0.11	0.41	<0.03		
	6/20/2013	0.14	0.06	0.05	0.14	0.08	<0.05	0.08	0.26	0.23		
	12/18/2013	0.06	0.27	<0.05	0.07	<0.05	<0.05	0.09	0.11	<0.05		
	6/12/2014	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	0.21	<0.04		
	12/23/2014	2	0.09	0.12	0.52	0.13	0.08	0.64	0.29	<0.04		
	6/10/2015	0.08	0.06	<0.01	0.67	0.05	0.10	0.06	<0.01	<0.01		
	12/21/2015	0.05	0.07	<0.01	2	0.01	<0.01	<0.01	<0.01	<0.01		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Total Chromium	6/27/2007	1.9	1.1	0.5	1.5	4.1	0.4	0.9	1.4	0.5	10	10
	12/6/2007	1	0.3	<0.24	1.5	4.3	<0.24	0.4	1.7	<0.24		
	6/27/2008	1.7	0.5	<0.11	0.8	4.1	<0.11	0.2	1.6	<0.11		
	12/10/2008	<0.11	1.3	<0.11	0.7	4.2	<0.11	<0.11	1.8	<0.11		
	6/16/2009	2.5	0.7	<0.10	0.3	3.7	<0.10	0.4	2.2	<0.10		
	12/7/2009	0.3	0.8	<0.10	0.3	2.4	<0.10	<0.10	1.1	<0.10		
	6/14/2010	3.4	0.2	0.7	0.6	2.7	<0.03	0.4	1.3	<0.03		
	12/21/2010	0.8	1.9	0.3	0.7	2.8	0.2	0.8	3.5	0.1		
	6/9/2011	1.2	0.5	0.24	0.55	2.5	<0.04	0.72	2.2	0.1		
	12/8/2011	0.25	0.74	<0.04	0.36	1.9	<0.04	0.59	3.1	0.6		
	6/4/2012	1.2	1.1	0.25	0.40	1.3	0.24	0.66	2.4	0.42		
	12/13/2013	1.50	0.92	<0.18	0.27	2.0	<0.18	0.94	2.7	0.49		
	6/20/2013	0.29	0.54	<0.04	<0.04	1.1	<0.04	0.2	2.2	<0.04		
	12/18/2013	0.32	0.92	0.14	0.09	1.3	<0.04	0.25	2.4	0.5		
	6/12/2014	0.46	0.76	<0.14	<0.14	1.00	<0.14	<0.14	2.3	<0.14		
	12/23/2014	1.4	1.3	0.40	0.40	1.7	0.4	0.78	3.0	0.14		
	6/10/2015	0.68	0.97	0.18	0.14	0.78	<0.12	0.26	2.5	<0.12		
	12/21/2015	0.46	1.1	<0.12	0.13	1.3	<0.12	0.24	3.2	0.22		

## Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Metals

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Lead	6/27/2007	1.4	0.4	<0.07	1.4	<0.07	<0.07	<0.07	1.2	<0.07	15	10
	12/6/2007	1.1	2.8	0.3	2.2	0.3	0.2	0.2	1.3	0.3		
	6/27/2008	2.8	0.6	0.2	1.8	0.1	0.1	0.1	0.6	0.1		
	12/10/2008	0.4	0.7	0.1	3.3	0.1	<0.04	0.5	0.2	0.1		
	6/16/2009	5	0.1	0.1	1.1	0.1	0.1	0.1	0.5	0.1		
	12/7/2009	1.1	0.9	0.3	2	0.2	<0.04	0.1	0.7	0.1		
	6/14/2010	5.6	0.1	0.3	1.5	<0.01	<0.01	0.1	0.1	0.2		
	12/21/2010	1	0.9	0.2	2	0.3	0.1	0.2	1.4	0.1		
	6/8/2011	1.3	0.21	0.25	1.4	0.11	0.06	0.12	0.26	0.18		
	12/8/2011	0.4	0.32	0.21	0.97	0.21	0.08	0.18	0.16	0.47		
	6/4/2012	0.81	0.73	0.44	1.1	0.33	0.20	0.16	0.72	0.43		
	12/13/2013	2.5	0.39	0.37	0.73	0.10	0.10	0.15	0.35	0.83		
	6/20/2013	0.44	0.92	0.05	0.42	0.09	<0.02	0.06	0.1	0.29		
	12/18/2013	0.11	0.67	0.06	0.24	0.3	0.1	0.35	0.08	0.07		
	6/12/2014	<0.13	1.0	<0.13	<0.13	<0.13	<0.13	<0.13	0.24	<0.13		
	12/23/2015	1.4	<0.13	<0.13	0.37	0.25	<0.13	<0.13	<0.13	<0.13		
	6/10/2015	0.35	0.2	<0.03	0.62	0.09	0.03	<0.03	0.03	0.05		
	12/21/2015	0.18	0.46	0.04	1.1	0.29	<0.03	<0.03	<0.03	0.11		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Mercury	6/27/2007	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	1.0	0.2
	12/6/2007	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	6/27/2008	0.05	0.02	0.04	0.01	<0.01	0.03	<0.01	0.04	0.01		
	12/10/2008	0.05	0.04	0.04	0.04	0.03	<0.01	0.02	<0.01	<0.01		
	6/18/2009	<0.03	<0.03	0.07	<0.03	<0.03	0.07	<0.03	<0.03	<0.03		
	12/7/2009	0.04	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	6/14/2010	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		
	12/21/2010	<0.08	<0.08	<0.08	<0.08	<0.08	0.17	<0.08	<0.08	<0.08		
	6/9/2011	<b>0.2</b>	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05		
	12/8/2011	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	6/4/2012	<0.02	0.08	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
	12/13/2013	<0.02	<0.02	<0.02	<0.02	0.02	0.05	<0.02	<0.02	<0.02		
	6/20/2013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	12/18/2013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	6/12/2014	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
	12/23/2015	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16		
	6/10/2015	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
	12/21/2015	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		

## Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Metals

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Selenium	6/27/2007	<0.35	1.7	0.5	0.5	5	0.6	1.1	0.6	<0.35	20	10
	12/6/2007	0.4	3.7	0.6	4.8	<b>11</b>	0.9	4	3.6	<0.35		
	6/27/2008	1.7	5.3	1	0.6	<b>18</b>	2.5	2.4	5.2	0.5		
	12/10/2008	0.2	2.9	0.7	0.5	7.4	0.6	4.4	3.8	0.3		
	6/16/2009	1.2	3.6	0.9	0.4	8.1	1.5	3.2	3.4	0.2		
	12/7/2009	<0.12	2.6	0.7	0.2	3.5	1.5	0.9	4.3	<0.12		
	6/14/2010	1.5	2	1.5	<0.32	2.2	1.5	0.9	3.2	0.5		
	12/21/2010	<0.32	1.6	0.8	2.2	2.8	1.1	2.3	2.9	<0.32		
	6/9/2011	0.38	1.5	0.55	0.3	1.5	1.3	0.71	4.9	0.28		
	12/8/2011	<0.20	0.94	<0.20	0.56	0.63	0.68	0.88	6.5	<0.20		
	6/4/2012	0.45	1.6	0.54	<0.17	0.52	1.1	0.60	3.7	0.45		
	12/13/2013	0.28	0.98	0.60	0.34	1.6	1.5	1.8	5.7	0.28		
	6/20/2013	0.29	2	0.67	0.13	0.88	1.4	1.90	6.6	0.25		
	12/18/2013	<0.06	1.2	1	<0.06	<0.06	2	0.55	7.1	0.72		
	6/12/2014	<0.16	1.4	<0.16	<0.16	<0.16	0.43	<0.16	5.5	<0.16		
	12/23/2015	0.21	1.2	0.38	<0.16	0.16	0.59	0.42	8.9	0.53		
	6/10/2015	0.23	0.91	0.46	<0.22	0.30	1.3	0.62	7.3	0.42		
	12/21/2015	<0.22	0.65	<0.22	<0.22	<0.22	0.38	0.30	6.3	<0.22		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Silver	6/27/2007	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	20	10
	12/6/2007	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52		
	6/27/2008	0.1	<0.04	0.1	<0.04	0.1	<0.04	0.1	0.1	<0.04		
	12/10/2008	<0.04	0.8	<0.04	<0.04	0.1	<0.04	0.1	0.1	0.1		
	6/16/2009	<0.04	<0.04	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	12/7/2009	0.1	0.1	0.1	<0.04	0.1	<0.04	<0.04	<0.04	0.1		
	6/14/2010	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	12/21/2010	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	6/9/2011	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
	12/8/2011	0.04	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02		
	6/4/2012	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
	12/13/2013	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10		
	6/20/2013	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	12/18/2013	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		
	6/12/2014	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	12/23/2015	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
	6/10/2015	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
	12/21/2015	0.02	0.01	0.02	0.03	0.02	0.02	0.01	0.02	0.01		

Notes:

1. Groundwater and surface water samples collected by Environment 1, Incorporated on behalf of Currituck County.

2. Laboratory Analytical Reports provided by Currituck County. All results reported in µg/L.

3. NC DENR Division of Water Quality Title 15A NCAC 2L .0202 Groundwater Quality Standards effective April 1, 2013.

4. NC DENR Division of Waste Management Solid Waste Section Limit.

5. Concentrations in bold type meet or exceed either of the current 2L GQS or SWSL.

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Benzene	6/27/2007	<0.16	0.8	<0.16	<1.0	1.8	0.8	<0.16	<0.16	<0.16		
	12/6/2007	<0.16	0.4	<0.16	<0.16	1.6	0.7	<0.16	0.9	<0.16		
	6/27/2008	<0.16	0.5	<0.16	<0.16	1.5	0.7	<0.16	0.8	<0.16		
	12/10/2008	<0.16	0.6	<0.16	<0.16	1.4	0.5	<0.16	0.7	<0.16		
	6/16/2009	<0.16	0.7	<0.16	<0.16	1.6	0.6	<0.16	0.7	<0.16		
	12/7/2009	<0.24	<0.24	<0.24	<0.24	1.1	1.3	<0.24	0.8	<0.24		
	6/14/2010	<0.24	0.4	<0.24	<0.24	0.9	1.8	<0.24	0.9	<0.24		
	12/21/2010	<0.24	<0.24	<0.24	<0.24	<0.24	0.6	<0.24	1.4	<0.24		
	6/9/2011	<0.24	<0.24	<0.24	<0.24	0.6	1.6	<0.24	1.2	<0.24		
	12/8/2011	<0.24	<0.24	<0.24	<0.24	0.5	2.0	<0.24	1.9	<0.24	1.0	1.0
	6/4/2012	<0.24	<0.24	<0.24	<0.24	<0.24	2.10	<0.24	1.20	<0.24		
	12/13/2012	<0.24	<0.24	<0.24	<0.24	0.90	1.70	<0.24	1.00	<0.24		
	6/20/2013	<0.24	<0.24	<0.24	<0.24	0.4	1.70	<0.24	1.40	<0.24		
	12/18/2013	<0.24	<0.24	<0.24	<0.24	<0.24	1.70	<0.24	1.20	<0.24		
	6/12/2014	<0.24	<0.24	<0.24	<0.24	<0.24	1.80	<0.24	1.60	<0.24		
	12/23/2014	<0.24	<0.24	<0.24	<0.24	<0.24	1.10	<0.24	1.50	<0.24		
	6/10/2015	<0.24	<0.24	<0.24	<0.24	<0.24	1.80	<0.24	1.50	<0.24		
	12/21/2015	<0.24	<0.24	<0.24	<0.24	<0.24	1.60	<0.24	1.50	<0.24		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Chlorobenzene	6/27/2007	<0.13	34.9	<0.13	<0.13	1	<0.13	<0.13	<0.13	<0.13		
	12/6/2007	<0.13	10.5	<0.13	<0.13	1.4	0.2	<0.13	0.9	<0.13		
	6/27/2008	<0.13	6	<0.13	<0.13	1.3	<0.13	<0.13	1	<0.13		
	12/10/2008	<0.13	5.7	<0.13	<0.13	1	<0.13	<0.13	1.4	<0.13		
	6/16/2009	<0.13	5.3	<0.13	<0.13	1.7	<0.13	0.3	0.8	<0.13		
	12/7/2009	<0.30	1.2	<0.30	<0.30	1.1	<0.30	<0.30	0.8	<0.30		
	6/14/2010	<0.30	7.8	<0.30	<0.30	0.6	<0.30	<0.30	1.2	<0.30		
	12/21/2010	<0.30	2.8	<0.30	<0.30	0.4	<0.30	<0.30	3.4	<0.30		
	6/9/2011	<0.30	5	<0.30	<0.30	0.6	<0.30	<0.30	3.7	<0.30		
	12/8/2011	<0.30	4.2	<0.30	<0.30	<0.30	0.6	0.3	6.7	<0.30	50	3.0
	6/4/2012	<0.30	2.7	<0.30	<0.30	<0.30	0.4	<0.30	3.4	<0.30		
	12/13/2012	<0.30	1.2	<0.30	<0.30	0.70	0.40	0.50	4.70	<0.30		
	6/20/2013	<0.30	1.9	<0.30	<0.30	<0.30	0.5	0.4	3.3	<0.30		
	12/18/2013	<0.30	<0.30	<0.30	<0.30	<0.30	0.70	0.30	2.60	<0.30		
	6/12/2014	<0.30	4.4	<0.30	<0.30	<0.30	0.80	<0.30	4.00	<0.30		
	12/23/2014	<0.30	<0.30	<0.30	<0.30	<0.30	0.50	<0.30	3.60	<0.30		
	6/10/2015	<0.30	<0.30	<0.30	<0.30	<0.30	0.80	<0.30	3.80	<0.30		
	12/21/2015	<0.30	<0.30	<0.30	<0.30	0.5	0.80	<0.30	4.20	<0.30		

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
1,4-dichlorobenzene	6/27/2007	<0.21	0.4	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21		
	12/6/2007	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	6/27/2008	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	12/10/2008	<0.21	0.3	<0.21	<0.21	<0.21	<0.21	<0.21	0.3	<0.21		
	6/16/2009	<0.21	0.4	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21		
	12/7/2009	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39		
	6/14/2010	<0.39	0.5	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39		
	12/21/2010	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.8	<0.39		
	6/9/2011	<0.39	0.4	<0.39	<0.39	<0.39	<0.39	<0.39	0.7	<0.39		
	12/8/2011	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	1	<0.39		
	6/4/2012	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.6	<0.39		
	12/13/2012	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.70	<0.39		
	6/20/2013	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.6	<0.39		
	12/18/2013	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.60	<0.39		
	6/12/2014	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.60	<0.39		
	12/23/2014	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.60	<0.39		
	6/10/2015	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.50	<0.39		
	12/21/2015	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	0.70	<0.39		

6 2L GQS

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Vinyl chloride	6/27/2007	<0.34	<0.34	<0.34	<0.34	0.604	0.5	<0.34	<0.34	<0.34	0.03	1.0
	12/6/2007	<0.34	<0.34	<0.34	<0.34	0.9	<0.34	<0.34	<0.34	<0.34		
	6/27/2008	<0.34	<0.34	<0.34	<0.34	1.1	0.4	<0.34	<0.34	<0.34		
	12/10/2008	<0.34	<0.34	<0.34	<0.34	0.4	<0.34	<0.34	<0.34	<0.34		
	6/16/2009	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34		
	12/7/2009	<0.63	<0.63	<0.63	<0.63	0.63	0.9	<0.63	<0.63	<0.63		
	6/14/2010	<0.77	<0.77	<0.77	<0.77	0.77	1.1	<0.77	<0.77	<0.77		
	12/21/2010	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	6/9/2011	<0.63	<0.63	<0.63	<0.63	<0.63	0.9	<0.63	<0.63	<0.63		
	12/8/2011	<0.63	<0.63	<0.63	<0.63	<0.63	0.9	<0.63	<0.63	<0.63		
	6/4/2012	<0.63	<0.63	<0.63	<0.63	<0.63	0.7	<0.63	<0.63	<0.63		
	12/13/2012	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	6/20/2013	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	12/18/2013	<0.63	<0.63	<0.63	<0.63	<0.63	0.80	<0.63	<0.63	<0.63		
	6/12/2014	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	12/23/2015	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63		
	6/10/2015	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63	0.7		
	12/21/2015	<0.63	<0.63	<0.63	<0.63	<0.63	0.70	<0.63	<0.63	<0.63		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Acetone	6/27/2007	<1.21	<1.21	1.7	1.4	1.7	<1.21	3.2	1.5	2.4	6000	100
	12/6/2007	<1.21	<1.21	<1.21	<1.21	1.3	<1.21	<1.21	<1.21	<1.21		
	6/27/2008	2.4	3.8	3	2.6	7.5	2.5	3.4	4.4	3.8		
	12/10/2008	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21		
	6/16/2009	3.2	3	3.6	3.4	4	1.5	2.2	3.1	5.6		
	12/7/2009	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/14/2010	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/21/2010	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/9/2011	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	11.2		
	12/8/2011	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/4/2012	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/13/2012	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/20/2013	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/18/2013	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/12/2014	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/23/2015	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	6/10/2015	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		
	12/21/2015	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06	<9.06		

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
1,1-dichloroethane	6/27/2007	<0.16	<0.16	<0.16	<0.16	0.2	<0.16	<0.16	<0.16	<0.16	6	2L GQS
	12/6/2007	<0.16	<0.16	<0.16	<0.16	0.4	<0.16	<0.16	<0.16	<0.16		
	6/27/2008	<0.16	<0.16	<0.16	<0.16	0.2	<0.16	<0.16	0.2	<0.16		
	12/10/2008	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	1.1	<0.16		
	6/16/2009	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	0.4	<0.16		
	12/7/2009	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
	6/14/2010	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20	<0.20		
	12/21/2010	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20	<0.20		
	6/9/2011	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.5	<0.20	0.7		
	12/8/2011	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.4	<0.20		
	6/4/2012	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	0.7	<0.27		
	12/13/2012	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	0.60		
	6/20/2013	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17		
	12/18/2013	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	0.20	0.50		
	6/12/2014	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	0.40		
	12/23/2015	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.60	<0.20		
	6/10/2015	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	0.40		
	12/21/2015	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.60	<0.20		

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Chloroethane	6/27/2007	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	3,000 10
	12/6/2007	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	0.4	<0.29	
	6/27/2008	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	
	12/10/2008	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	3.8	<0.29		
	6/16/2009	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	0.8	<0.29		
	12/7/2009	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.1	<0.48		
	6/14/2010	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	0.8	<0.48		
	12/21/2010	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	6/9/2011	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	0.9	<0.48		
	12/8/2011	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.70	<0.48		
	6/4/2012	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.2	<0.48		
	12/13/2012	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	6/20/2013	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	12/18/2013	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		
	6/12/2014	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.30	<0.48		
	12/23/2015	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	0.50	<0.48		
	6/10/2015	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	1.40	<0.48		
	12/21/2015	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48		

Currituck County Landfill #27-24 Summary of Groundwater and Surface Water Analytical Data-Volatile Organics

Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Cis-1,2 Dichloroethene	6/27/2007	<0.14	<0.14	<0.14	<0.14	0.2	0.8	<0.14	<0.14	<0.14	70 5	
	12/6/2007	<0.14	<0.14	<0.14	<0.14	0.2	0.3	<0.14	<0.14	<0.14		
	6/27/2008	<0.14	<0.14	<0.14	<0.14	0.2	0.8	<0.14	<0.14	<0.14		
	12/10/2008	<0.14	<0.14	<0.14	<0.14	0.2	<0.14	<0.14	<0.14	<0.14		
	6/16/2009	<0.14	<0.14	<0.14	<0.14	0.5	<0.14	<0.14	<0.14	<0.14		
	12/7/2009	<0.25	<0.25	<0.25	<0.25	0.8	<0.25	<0.25	<0.25	<0.25		
	6/14/2010	<0.25	<0.25	<0.25	<0.25	0.7	<0.25	<0.25	<0.25	<0.25		
	12/21/2010	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
	6/9/2011	<0.25	<0.25	<0.25	<0.25	0.7	<0.25	<0.25	<0.25	<0.25		
	12/8/2011	<0.25	<0.25	<0.25	<0.25	0.6	<0.25	<0.25	<0.25	<0.25		
	6/4/2012	<0.25	<0.25	<0.25	<0.25	0.4	<0.25	<0.25	<0.25	<0.25		
	12/13/2012	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25	<0.25		
	6/20/2013	<0.25	<0.25	<0.25	<0.25	0.5	<0.25	<0.25	<0.25	<0.25		
	12/18/2013	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25	<0.25		
	6/12/2014	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
	12/23/2015	<0.25	<0.25	<0.25	<0.25	0.30	<0.25	<0.25	<0.25	<0.25		
	6/10/2015	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25	<0.25		
	12/21/2015	<0.25	<0.25	<0.25	<0.25	0.50	<0.25	<0.25	<0.25	<0.25		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Toluene	12/8/2011	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.3	<0.23	600 1	
	6/4/2012	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/13/2012	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.3	<0.23		
	6/20/2013	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/18/2013	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	6/12/2014	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/23/2015	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.30	<0.23		
	6/10/2015	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.30	<0.23		
	12/21/2015	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
Sample ID	Date	Well #1	Well #2	Well #3	Well #4	Well #5	Well #6	Well #7	Well #8	Pond	2L GQS <sup>2</sup>	SWSL <sup>3</sup>
Xylenes	12/8/2011	<0.25	<0.25	<0.25	<0.25	0.6	<0.25	<0.25	<0.25	<0.25	500 5	
	6/4/2012	<0.68	<0.68	<0.68	<0.68	0.8	<0.68	<0.68	<0.68	<0.68		
	12/13/2012	<0.68	<0.68	<0.68	<0.68	0.68	<0.68	<0.68	<0.68	<0.68		
	6/20/2013	<0.68	<0.68	<0.68	<0.68	0.68	<0.68	<0.68	<0.68	<0.68		
	12/18/2013	<0.68	<0.68	<0.68	<0.68	0.68	<0.68	<0.68	<0.68	<0.68		
	6/12/2014	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23		
	12/23/2015	<0.23	<0.23	<0.23	<0.23	<0.68	<0.68	<0.68	1.10	<0.68		
	6/10/2015	<0.68	<0.68	<0.68	<0.68	0.68	<0.68	<0.68	<0.68	<0.68		
	12/21/2015	<0.68	<0.68	<0.68	<0.68	0.68	<0.68	<0.68	1.20	<0.68		

Notes:

1. Groundwater and surface water samples collected by Environment 1, Incorporated on behalf of Currituck County.

2. Laboratory Analytical Reports provided by Currituck County. All results reported in µg/L.

3. NC DENR Division of Water Quality Title 15A NCAC 2L .0202 Groundwater Quality Standards effective April 1, 2013.

4. NC DENR Division of Waste Management Solid Waste Section Limit.

5. Concentrations in bold type meet or exceed either of the current 2L GQS or SWSL.



PROJECT  
**07014.1**  
DRAWN BY  
**CADD**  
CHECKED BY  
**WDE**  
DATE  
**08/12/15**

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NOTED.

### SHALLOW WATER TABLE SURFACE MAP-06/10/15

## CURRITUCK COUNTY MSW LANDFILL 27-03

MAPLE TOWNSHIP CURRITUCK  
NORTH CAROLINA

0 300 600  
GRAPHIC SCALE IN FEET 1"=300

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# Environment 1, Incorporated

P.O. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

Drinking Water ID: 37715  
Wastewater ID: 10

PHONE (252) 756-6208  
FAX (252) 756-0633

CLIENT: CURRITUCK COUNTY LANDFILL  
PUBLIC WORKS DEPARTMENT  
153 COURTHOUSE RD SUITE 302  
CURRITUCK, NC 27929

CLIENT ID: 6028  
ANALYST: MAO  
DATE COLLECTED: 12/21/15 Page: 1  
DATE ANALYZED: 12/23/15  
DATE REPORTED: 02/01/16

REVIEWED BY: 

VOLATILE ORGANICS  
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Well #1	Well #2	Well #3	Well #4	Well #5
1. Chloromethane	0.77	1.0	--- U				
2. Vinyl Chloride	0.63	1.0	--- U				
3. Bromomethane	0.67	10.0	--- U				
4. Chloroethane	0.48	10.0	--- U				
5. Trichlorofluoromethane	0.24	1.0	--- U				
6. 1,1-Dichloroethene	0.17	5.0	--- U				
7. Acetone	9.06	100.0	--- U				
8. Iodomethane	0.26	10.0	--- U				
9. Carbon Disulfide	0.23	100.0	--- U				
10. Methylene Chloride	0.64	1.0	--- U				
11. trans-1,2-Dichloroethene	0.23	5.0	--- U				
12. 1,1-Dichloroethane	0.20	5.0	--- U				
13. Vinyl Acetate	0.20	50.0	--- U				
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U				
15. 2-Butanone	2.21	100.0	--- U				
16. Bromochloromethane	0.27	3.0	--- U				
17. Chloroform	0.25	5.0	--- U				
18. 1,1,1-Trichloroethane	0.19	1.0	--- U				
19. Carbon Tetrachloride	0.22	1.0	--- U				
20. Benzene	0.24	1.0	--- U				
21. 1,2-Dichloroethane	0.27	1.0	--- U				
22. Trichloroethene	0.23	1.0	--- U				
23. 1,2-Dichloropropane	0.21	1.0	--- U				
24. Bromodichloromethane	0.21	1.0	--- U				
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U				
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U				
27. Toluene	0.23	1.0	--- U				
28. trans-1,3-Dichloropropene	0.28	1.0	--- U				
29. 1,1,2-Trichloroethane	0.25	1.0	--- U				
30. Tetrachloroethene	0.17	1.0	--- U				
31. 2-Hexanone	1.57	50.0	--- U				
32. Dibromochloromethane	0.24	3.0	--- U				
33. 1,2-Dibromoethane	0.26	1.0	--- U				
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	0.50 S
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U				
36. Ethylbenzene	0.21	1.0	--- U				
37. Xylenes	0.68	5.0	--- U				
38. Dibromomethane	0.28	10.0	--- U				
39. Styrene	0.19	1.0	--- U				
40. Bromoform	0.20	3.0	--- U				
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U				
42. 1,2,3-Trichloropropane	0.43	1.0	--- U				
43. 1,4-Dichlorobenzene	0.39	1.0	--- U				
44. 1,2-Dichlorobenzene	0.31	5.0	--- U				
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U				
46. Acrylonitrile	2.72	200.0	--- U				
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U				

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208  
FAX (252) 756-0633

CLIENT: CURRITUCK COUNTY LANDFILL  
PUBLIC WORKS DEPARTMENT  
153 COURTHOUSE RD SUITE 302  
CURRITUCK, NC 27929

CLIENT ID: 6028  
ANALYST: MAO  
DATE COLLECTED: 12/21/15 Page: 2  
DATE ANALYZED: 12/23/15  
DATE REPORTED: 02/01/16

REVIEWED BY: 

VOLATILE ORGANICS  
EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	Well #6	Well #7	Well #8	Pond
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	0.70 J	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethane	0.17	5.0	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	0.60 J	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	0.50 J	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	1.50	--- U	1.50	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U
31. 2-Bromance	1.57	50.0	--- U	--- U	--- U	--- U
32. Dibromo-chloromethane	0.24	3.0	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	0.60 J	--- U	4.20	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	1.20 J	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropene	0.43	1.0	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	0.70 J	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropano	0.34	13.0	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

# Environment 1, Incorporated

PO. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

Drinking Water ID: 37715  
Wastewater ID: 10

PHONE (252) 756-6208  
FAX (252) 756-0633

ID#: 6028

CURRITUCK COUNTY LANDFILL  
PUBLIC WORKS DEPARTMENT  
153 COURTHOUSE RD SUITE 302  
CURRITUCK , NC 27929

DATE COLLECTED: 12/21/15  
DATE REPORTED : 02/01/16

REVIEWED BY: 

PARAMETERS	MDL	SWSL	Well	Well	Well	Well	Well	Analysis	Method	
			#1	#2	#3	#4	#5	Date	Analyst	Code
PE (field measurement), Units			4.6	6.2	6.0	5.3	5.7	12/21/15 BF	4500BB-00	
Arsenic, ug/l	0.14	10.0	3.4 J	2.2 J	4.0 J	---	U	01/04/16 LFJ	EPA200.8	
Barium, ug/l	0.01	100.0	26.2 J	38.3 J	9.2 J	86.4 J	10.4 J	01/04/16 LFJ	EPA200.8	
Cadmium, ug/l	0.01	1.0	0.05 J	0.07 J	---	U	2	0.01 J	01/04/16 LFJ	EPA200.8
Total Chromium, ug/l	0.12	10.0	0.46 J	1.1 J	---	U	0.13 J	1.3 J	01/04/16 LFJ	EPA200.8
Lead, ug/l	0.03	10.0	0.18 J	0.46 J	0.04 J	1.1 J	0.29 J	01/04/16 LFJ	EPA200.8	
Mercury, ug/l	0.05	0.20	---	U	---	U	---	U	01/08/16 JNN	245.1 R3-9
Selenium, ug/l	0.22	10.0	---	U	0.65 J	---	U	01/04/16 LFJ	EPA200.8	
Silver, ug/l	0.01	10.0	0.02 J	0.01 J	0.02 J	---	U	01/04/16 LFJ	EPA200.8	
Silver, ug/l	0.01	10.0	---	U	---	U	0.03 J	0.02 J	01/05/16 LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	94	406	256	485	115	12/21/15 BF	2510B-97	
Temperature, °C			17	16	17	17	18	12/21/15 BF	2550B-00	
Static Water Level, feet			4.23	2.82	4.31	6.18	7.04	12/21/15 BF		
Well Depth, feet			21.15	18.63	21.34	23.60	20.34	12/21/15 BF		

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

## Table of Values Which Exceed Established Standards And/Or Exceed Reporting Levels

Facility Name: CURRITUCK COUNTY LANDFILL

Permit #: 2701

Lab ID# 6028

\*\* Note: NC 2L STD = NC 2L Ground Water Standard  
NC GWP STD = NC Solid Waste Groundwater Protection Standard  
NC 2B SWS = NC 2B Surface Water Standard